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AUTHOR Selfe, Cynthia L.; Wahlstrom, Billie J.
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ABSTRACT

Michigan Technological University is designing a series of computer modules for supplementary, process-based writing instruction. The Wordsworth II program will lighten the workload of composition instructors by involving students in an individualized writing program outside the regular classroom. It is a sophisticated and interactive program that, unlike most commercial software for composition, addresses all parts of the composing process, from initial planning of topic through the final polishing. Each of the modules focuses on one of eight writing assignments commonly given in composition courses: description, narration, personal writing, classification, evaluation, persuasion, literary analysis, and creative writing. The planning program of each module, after reviewing for students the major lecture points associated with the assignment, will involve them in prewriting strategies such as brainstorming or inventing topics, focusing through freewriting, and constructing audience profiles. The polishing program focuses on early, middle, and later drafts, including proofreading. The program also reacts to students' responses, reminding them of previous answers, and evaluating responses. The modules are written in a lively, engaging style, and avoid computer or composition jargon and complicated file manipulation in order to encourage neophyte as well as experienced computer users. Developers of the Wordsworth programs believe it points the direction of computer-assisted instruction in the composition classroom, and students have indicated that they have found the prototype very useful in their writing efforts. (HTH)

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The Benevolent Beast:

Computer-Assisted Instruction for the Teaching of Writing

Cynthia L. Selfe and Billie J. Wahlstrom
Humanities Department
Michigan Technological University
Houghton, MI 49931
Telephone: (906) 487-2447

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The Benevolent Beast:

Computer-Assisted Instruction for the Teaching of Writing

When English teachers first start to think about computer-assisted instruction, they usually find themselves in a situation analogous to Fay Wray's. They love the sweet beast; they lust after the power it represents, but they refuse to climb willingly into its hairy paw. In the September 1982 issue of College English, William Wresch puts many of our fears to rest, assuring us that the beast is finally chained and performing such useful chores as helping students write poetry, assisting them as they generate ideas for papers, and giving them feedback when they write news stories. Yet, even now, we are not quite sure what the beast can and cannot do. What are its limitations, its strengths? How we can expect it to behave? This paper will explore the potential of CAI--the benevolent beast--by looking closely at Wordsworth II, one of the "new wave" computer programs currently being designed for teachers of composition. In addition, the paper will suggest how those CAI techniques used to teach writing in Wordsworth II can be adapted effectively in other areas of English studies.

Background

The recent explosion of research on the processes involved in composing has had an impact on the teaching of writing wherever it occurs in the English curricula. Our increased awareness of process has influenced not only the way we teach composition but the way we teach most of our English classes. The result has been an increased workload for all of us; we have found, quite reasonably, that it takes much longer to work with a student through lengthy prewriting activities and multiple drafts of a paper than it does simply to examine a written product in its final form.

Out of these worries about the quality of our own teaching and awareness of our limited time and energy has grown a desire to do something to improve the writing that is done by students in the composition and literature courses that we teach. In the Humanities Department of Michigan Technological University (MTU), we have turned to computer-assisted instruction for help in teaching writing. For our Freshman English classes, we have designed Wordsworth II, a series of computer modules designed to act as supplementary, process-based writing instruction. Wordsworth II lightens the work load of composition teachers by involving students in an individualized writing program outside the regular classroom. As interactive computer-assisted instruction, Wordsworth II is designed to provide students with help on assigned compositions--help that is available in addition to regular classroom instruction. Although we have designed the initial modules for use in the composition classroom, we intend to develop additional modules for teaching writing throughout the English curriculum--in technical writing, business writing, and introductory literature courses.

CAI for Writing Instruction

Those of us who teach writing and fear not the hairy beast are beginning to realize that computer-assisted instruction is our greatest ally in the battle against increasing work loads. We have discovered, for example, that the relatively simple tasks of teaching grammar and usage are easily adapted to binary logic and that microcomputers can, for these mechanical tasks, accomodate more students, with more patience, than can the best of teachers. Thus, programs such as PLATO, Houghton Mifflin's Dolphin Language Series, and The University of Notre Dame's English Tutorials are able to act effectively as electronic workbooks, teaching students how to use commas, avoid dangling

modifiers, and how to recognize the subject of a sentence. These programs free teachers for more difficult tasks in the composition classroom--lecturing, having individual conferences, or organizing small group work.

Unfortunately, computer-assisted instruction in the field of composition has gone little beyond this electronic workbook stage and has continued to suffer from two significant shortcomings. First, CAI in composition has, in most cases, simply duplicated the programmed, audio-visual materials developed for slides, tapes, and filmstrips ten years ago and is only now beginning to take advantage of the branching or interactive capabilities of new hard- and software. Second, most CAI currently available to composition teachers focuses only on editing and proofreading, two relatively minor activities within the larger process of composing. No commercial CAI addresses the entire spectrum of activities involved in the composing process—from the first planning efforts, through the writing of multiple drafts, to the final revision and editing activities. A few pioneers, such as Hugh Burns of the Air Force Academy (Burns, 1980) and Robert Bishop of the University of Michigan (Bishop, 1973), have been able to apply the computer to more complex matters of process and content in composition classrooms; nevertheless, these remain relatively isolated attempts.

The most obvious reason for the simplistic CAI now available to composition teachers involves the fundamental schism existing between humanities and technical fields. Although both teachers and computer technicians have turned their attention toward software design, they have not yet discovered how to work together. Much of the CAI currently on the market for the composition classroom, for example, has been written by English teachers who have only a limited grasp of the potentials inherent in software design. It is no wonder that we have developed a fear of the beast we so little understand. The other software currently available to writing teachers

has been developed by technicians from computer software companies who understand the mechanical nature of the beast but have only a limited vision of modern composition theory and pedagogy. The result of this schism is software limited in its usefulness.

The Challenge

Wordsworth II, a cooperative venture of English teachers and computer scientists at Michigan Technological University, is designed to be a viable alternative to the CAI currently on the market for college writing courses. It is a sophisticated and interactive program of computer-assisted instruction that addresses all parts of the composing process, from the initial planning of a topic through the final polishing.

Wordsworth II consists of eight, process-based modules that supplement classroom instruction in composition. Each of the modules is focused on one of eight writing assignments most commonly given in college composition classes: description, narration, personal writing, classification, evaluation, persuasion, literary analysis, and creative writing.

At this time, the Wordsworth II team has completed and field tested the prototype, narrative module for Wordsworth II. The remaining modules are being written and will be completed and field tested by 1984. All the modules will follow a similar format; each will be divided into two programs, PLANNING and POLISHING, as shown in Figure 1 below.

Insert Figure 1 about here.

The PLANNING program of each module, after reviewing for students the major lecture points associated with the assignment, will involve them in

Narrative Module

PLANNING

—Reviewing lecture points
—Inventing potential topics
—Focusing on topic
—Organizing plot line
—Considering audience

POLISHING

Early Draft

—Identifying aim & purpose
—Identifying audience
—Identifying focus
—Considering organization
—Eliminating deadwood
—Defining major strengths
—Defining major weaknesses

Middle Drafts

—Working with organization
—Showing vs. telling
—Focusing on a theme
—Creating effective openers
—Writing dialogue

Late Drafts

—Considering transitions
—Employing vivid verbs
—Punctuating dialogue
—Checking spelling

Figure 1. PLANNING and POLISHING programs of the Narrative Module

strategies they can employ before beginning to write a paper, i.e., brainstorming to generate or invent possible topic ideas, exploring and focusing potential topics through short journal entries or freewrites, organizing plot lines, and constructing audience profiles. The POLISHING program of the Wordsworth II modules--divided into EARLY draft, MIDDLE draft and LATER draft branches--involve students in various strategies of revising, recasting, or proofreading depending on the kind of draft they bring with them to the computer (see Figure 1).

Programming Considerations

Wordsworth II was created as a supplemental teaching tool for English composition teachers at MTU. We programmed the series in UCSD Pascal on our Terak 8510A with the help of computer science experts on campus. From the outset, we were primarily concerned with avoiding the traditional shortcomings of CAI in the field of composition and determined to make Wordsworth II a truly valuable asset for writing teachers. As a result, we resolved that each of the modules would meet the following criteria:

Individualized Instruction

One of Wordsworth's most important functions is as a supplementary instructional tool. Thus, each of the eight modules begins with a review of major lecture points for the assignment under consideration. The narrative prototype, for example, reviews lecture points on conflict, character, plot, detail, setting, and motivation. Each of these lecture points is explained at several branching levels, each level involving its own examples and practice exercises. Thus, students can select the amount of explanation and practice most appropriate for their own understanding of the subject. A student confident about the narrative lesson, for

instance, can choose only a brief reminder of each lecture point, while a confused student may select several levels of explanation for any one lecture point. In the sample conversation below, a student named Horatio asks for two levels of explanation. Horatio supplied the machine with his name when he first began the planning session.

Point #1: Be aware of how your paragraphs are organized.

Most of us, Horatio, realize that a paragraph is a unit of organization. All paragraphs should have one sentence or a central idea on which they revolve. In narratives, paragraphs often lack a topic sentence, but there is always one major idea that all the details in the paragraph support.

Do you need a little practice in recognizing the main idea of a paragraph? If you do, type "Yes", if not type "Go On".

Horatio types "YES"

Read the passage below, Horatio. Choose that sentence you think incorporates the main idea of the paragraph and type in its number. Then hit my return key, and I'll tell you what I think.

> (1) Last week my brother, Zeke, wrangled a job as a rolling advertisement. (2) By ten o'clock on Friday morning he was cruising down Green Street wearing pink shorts and carrying a placard that read, "Eat Oysters, Love Longer." (3) By noon he had attracted quite a crowd. (4) Zeke is a maniac, a roller-skating rabble rouser.

Which number is the main idea?

Horatio responds
with 1, 2, or 3.

No, Horatio, that's not quite right. The whole point or focus of the paragraph is that Zeke is a wild and crazy fellow--a rabble rouser on skates, as detailed in sentence 4. Would you like further practice on this concept? If so, type in "YES", if not type in "GO ON".

Horatio types in "YES"

Okay, Horatio, read the next paragraph and choose the sentence that incorporates the main idea. Write the number of that sentence when I ask you for it.

> (1) Zeke winged it past old Mr. Blondersnatch, the

> neighborhood grouch. (2) Unfortunately Zeke's antenna, which had been deformed by several previous accidents, caught Mr. Blondersnatch's cane. (3) When it flew out of the old man's hand, he fell flat on his face. (4) Zeke couldn't play it straight, even on the job. (5) The police took away Zeke's wheels to protect him from himself.

Which number is the main idea?

Horatio responds with 4.

Hey, Horatio, excellent job! The whole paragraph is focused on the idea that Zeke gets into a fix every time he does something—even when he's on the job. This is stated in sentence 4. Now, let's get on with the program.

The individualized instruction represented in the previous example is used specifically for teaching narrative writing; however, this format can be adjusted easily to teach a variety of writing assignments. The technique may be adapted, for example, to teach specific formats in technical writing, to illustrate fundamentals of journalistic writing, and to show students strategies to use when writing about literature.

Interactive Responses

Perhaps Wordsworth II's most important goal is to involve students in all phases of the writing process--from planning an initial draft to polishing a final draft. Wordsworth II programs encourage students to respond in writing by interacting directly with them via the cathode ray tube (CRT). The programs, for instance, ask students to brainstorm ideas about potential topics and list them on the screen; to type in freewrites or preliminary stream-of-consciousness explorations of a topic; to revise paragraphs on the CRT; and to type in profiles of characters, plot

lines, and audiences. The following excerpt, for instance, shows how Wordsworth II helps students build profiles of the characters they will use in their narratives:

Well, Horatio, how many main characters (very important characters) do you plan to have in your narrative? List them by name.

Horatio types in
names of major characters.

Okay, how many secondary characters (characters of lesser importance) do you plan to have in your story? List them by name.

Horatio types in names of
secondary characters.

Are all these characters strictly necessary to the conflict? Can you cut any of them out? Remember, you don't have to tell the story exactly as it happens. Sometimes it helps your narrative to combine two characters into one! I'll list each of the characters you have identified. After I write their name, you write a sentence or two telling why it is necessary to have them in your story. Hit the carriage return when you're done with each character.

Horatio types in justification
of each character.

Finally, Horatio, what physical and mental characteristics of your characters will you have to emphasize? I'll list each of the characters you've identified. After I write their names, you write one or more sentences about how they look and act. Hit the carriage return when you're done describing each character.

Horatio describes each character.

Although this module of Wordsworth II focuses on the teaching of narrative writing, it could be adapted to correspond to lectures in literature classes on narrative (or poetry or drama). Such a program could help students recognize, through close reading, a variety of elements—plot and character development techniques, poetic devices, figurative language—and then assist them in developing strategies to write about these elements. In technical writing curricula, modules similar to Wordsworth II could assist in

the teaching of a variety of specific forms--abstracts, reports, telephone logs, and the like.

Wordsworth II also reacts to the students' responses; reminding them of previous answers, and evaluating, in a limited fashion, their responses. The program can, for instance, use length and number cues to determine if students have listed enough preliminary topics for consideration or scan a text for key words and phrases to decide if the students have succeeded in practice exercises. The following example illustrates one evaluative section of Wordsworth II's prototype module:

Well, Horatio, now that you have the basic elements of a narrative paper, you will want to choose an episode for your own paper. What kind of episodes best lend themselves to short narratives? Well, consider the following suggestions:

——Your first love affair
——A death of a friend or relative
——A situation that caused you to change your opinion about a friend, someone you didn't like, or a group of people
——A situation in which you were wronged by a person or an institution that was supposed to have your best interests at heart
——A situation that made you grow up

Got any ideas? Let's try listing them. You know, sometimes making a list can help you generate ideas for a paper. What I want you to do is write down in list form all the episodes you can think of that might be appropriate for a narrative paper. Number each item, each episode, on your list. Don't worry about spelling right now--we'll get to that much later in the writing process! Try to enter at least five episodes. When you finish typing in your events hit the carriage return so I'll know that you're done.

Student types in
list of seven ideas.

Well, Horatio. That's a good start, but you could probably use a few more ideas on your brainstorming list. Remember, the whole idea of listing is to generate lots of ideas that you can choose from them later on. Will you try to add a few more ideas? I'll show you your original list, and you can give it a try. Remember to number each additional item you add. Hit the carriage return when you've finished so that I'll know you're done.

Student types in three additional ideas.

Okay, Horatio, that's ten ideas. I think we have enough to work with now. As a matter of fact, you've got a pretty good start! Now, we have to pick the three episodes you think will make the best narratives.

As the previous example indicates, one strength of Wordsworth II is that it forces students to engage in various predrafting, drafting, and postdrafting strategies that are useful in any composing situation. The brainstorming techniques Wordsworth II asks students to try, for example, can be used in any class that requires substantial writing. In technical or business writing courses, this brainstorming activity can be directed toward developing topics for classification papers and reports. In journalism, it can help students generate ideas for feature stories. In a creative writing class, it can encourage students to think of metaphors and images or of topics for their writing.

Ease of Use

Because Wordsworth is offered on a voluntary, extra-class basis for our freshman English classes, it must encourage neophytes as well as more experienced computer users. We cannot allow students to be scared away from the instructional material Wordsworth II presents because they fear computers. Thus, we have written the Wordsworth II modules in a lively, engaging style. The modules also avoid computer or composition jargon and complicated file manipulations. The example below is typical of the light tone and clear directions we try to provide:

You know, Horatio, the special challenge in writing a narration is

to recreate the scene for your reader. You have to bring the situation to life by providing very vivid, explicit details that document what happened and how it happened. This use of vivid examples to recreate a scene is called showing. Obviously, it involves much more than just telling a story. Often details that help to show what happens are sensory--details of sight, sound, smell, touch, and feel. Other times, they are details about someone's thoughts or feelings. The use of vivid verbs also helps to show what's happening.

Do you need practice in distinguishing showing from telling? Type "YES" if you do; type "GO ON" if you do not.

Horatio types "YES"

I'll try to illustrate the difference between showing and telling, Horatio. Read the two paragraphs below and choose the one that shows you what is going on--that recreates the situation for you. When I tell you to, type in the number of the paragraph you've chosen, and I'll tell you what I think.

> (1) I didn't want to watch Dickie do it, but I couldn't stop myself. He clambered up the ragged, gray rock face, grabbing on to the small, fragrant juniper bushes to steady his progress. Once when he shifted his feet small showers of pebbles cascaded down the cliff and onto the piles of massive boulders below. When he reached a narrow ledge fifty feet above where I stood, he stopped, turned, crouched slightly, and launched himself into the air. By the time he hit the water, I was a nervous wreck.
>
> (2) I didn't want to watch Dickie do it, but I couldn't help myself. He climbed the rock face, got to a ledge and dove off into the water.

Which paragraph shows you what happened? Type in the number.

What is particularly useful about branching programs such as the one above is that it encourages the close-reading skills essential to success in all literature and writing courses. Instead of having students look for the differences between showing and telling as this exercise does, a CAI program can be designed to ask students to differentiate between rhetorical or poetic devices in a literary essay, or between feature writing and news writing techniques used in journalism. Exercises in scansion could be developed within this model, for instance, that would allow students

to sharpen both their reading and writing skills. Moreover, exercises in metaphor, simile, personification can help beginning creative writers gain experience and confidence with new forms.

Conclusion

We believe that Wordsworth II points the direction of CAI in the writing classroom. It proves just how helpful the beast can be (if it is tamed) in our attempt to conquer the problems generated by our commitment to process-based writing. Computers and CAI no longer need be a source of fear or mistrust. Wordworth II, and similar programs that are now being developed, can provide intelligent help in teaching our students to write.

If the student reaction to our prototype module is any indication, our work has provided young writers with both an effective alternative to the simplistic fill-in-the-blank CAI programs and an engaging experience. Our students find Wordsworth II to be "enjoyable" and "almost as much fun as a video game." Perhaps more importantly, however, they find it to be useful in their own writing efforts. As one student noted:

> A computer program for creating English papers is definitely helpful. The most difficult part of a paper is finding a good topic. Not many students know the procedure for discovering a topic. Furthermore, most students are too lazy to sit down and follow the procedure to the finish. With computers, however, all information necessary for writing a paper is right in front of your face on a screen....
>
> The computer is like a game. It encourages the student to write. The computer also breaks the monotony of scribbling down information on paper. Since it is a machine that doesn't run forever and many people are usually in line waiting to use it, the student is pushed to type something when asked a question by the computer, making free-writing faster and easier. For most students, it's very difficult just to sit in front of a computer without typing in something. But when someone sits down to write a paper, he can sit for hours without writing anything.

This comment is representative of the responses we received from the freshmen

who used Wordsworth II. All of the students who field tested the prototype module agreed that it was a "valuable" teaching tool. None complained of having to work with a mechanical teacher of composition or of feeling frustrated when trying to undertake a task of creative writing at the prompting of a computer.

The next two years should see our increasing use of Wordsworth II at MTU and in English departments at other universities that have volunteered to field test the material. Our commitment is to developing more programs like Wordsworth II to aid us in our struggle with increasing work loads and to help us teach students the processes involved in writing. As Dr. Robert Taylor from Columbia University notes,

> All too often in any writing course that does not rely upon computers, the essay, book report, story, or other document turned in is the main thing, and pupils get little sense that <u>how</u> they manage to write it matters. Most students are hardly aware that composition is a <u>process</u> of refinement, not a one-step fabrication. Lack of time and dread of scribal labor usually prevent writing students from correcting even minor errors, let alone making major organizational changes to improve their writing. Rewriting is the exception rather than the rule. Computers can change all of that.

We believe that Wordsworth II, which shows us the benevolent side of the hairy beast, is one small step in the right direction.

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